

US EPA RECORDS CENTER REGION 5



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Monthly Oversight Report 34
ACS NPL Site
Griffith, Indiana
September 27, 2003 - October 31, 2003



BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
November 5, 2003

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 34 for October 2003

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 34 for October 2003 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 34
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of October (September 29, 2003 - October 31, 2003)

BVSPC O/S Dates: October 2 and 30, 2003

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	3	Respondent's General Contractor
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen	2	Electrical Contractor
Ryan Construction	2	General Contractor
US Floors	3	Flooring Contractor
Simalabs	1	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza reported that American Chemical Service employees observed odors coming from the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system blower shed building #1 on September 30, 2003, after Thermal Oxidizer Unit 2 shut down.
- Austgen reprogrammed the control logic for the operation of the in-situ soil vapor extraction system blowers.
- Ryan Construction installed check valves in the On-Site Containment Area Still Bottoms Pond Area and Off-Site Containment Area in-situ soil vapor extraction systems.
- Montgomery Watson Harza measured water levels in select in-situ soil vapor extraction system wells.
- Montgomery Watson Harza replaced a 24-volt supplier pack to Thermal Oxidizer Unit 2.
- Ryan Construction completed installing the ventilation fan in the compressor room.
- Montgomery Watson Harza replaced the filters in the nanofiltration unit.
- Austgen continued working on the programming logic for automatic operation of the nanofiltration unit.
- US Floors installed an epoxy sealant on the groundwater treatment plant floors.

- Simalabs collected the monthly compliance sample from the groundwater treatment plant on October 29, 2003.
- Montgomery Watson Harza held biweekly construction coordination meetings on October 2, 16, and 30, 2003.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it received a phone call from Tom Froman of American Chemical Services (ACS) reporting that odors were observed around the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system on the evening of September 30, 2003. MWH reported that it logged into the control system and found that Thermal Oxidizer Unit 2 and the ONCA SBPA ISVE system blower had shut down; however, the Off-Site Containment Area (OFCA) ISVE system blower continued to operate. With Thermal Oxidizer Unit 2 not operating, the vapors from the OFCA ISVE system passed through the header system at the groundwater treatment plant (GWTP) back through the piping to the ONCA SBPA ISVE system and into the blower shed. MWH reported that it did not have equipment installed in the ISVE systems to prevent backflow in the system. MWH reported that it immediately shut down the OFCA ISVE system blower. Austgen was onsite on October 1, 2003, and investigated the control programming for the systems. MWH reported that Austgen believes that the ethernet connection to the OFCA ISVE system was interrupted, causing the blower to not shut down appropriately. MWH reported that Austgen programmed additional controls into the logic so that the OFCA ISVE system blower shuts down immediately if the ethernet connection is lost. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system. ACS also reported that it observed a similar situation on September 25, 2003. MWH reported that it was working on the ISVE system on that day but was unable to confirm ACS' observation.

MWH reported that Thermal Oxidizer Unit 2 shut down on September 30, 2003, because of a low flow fault. On Wednesday, October 1, 2003, Austgen disassembled the nozzles and flow switches on the scrubber unit; however, Austgen did not observe any clogs in these items. On Thursday, October 2, 2003, Austgen disassembled the recirculation pump for the scrubber and found a large piece of gasket material obstructing flow in the pipe on the impeller side of the pump. MWH reported that the gasket material was not the material that Ryan Construction had used during construction of the unit and that it did not know the origin of the material. MWH proceeded to bring the unit back online and resumed operation of the ONCA SBPA and OFCA ISVE systems until October 13, 2003, when the systems were shut down for the floor coating installation in the GWTP. Ryan Construction installed check valves in the ONCA SBPA and OFCA ISVE systems during the week of October 13, 2003.

MWH reported that it replaced a 24-volt supply pack in Thermal Oxidizer Unit 2 on October 22, 2003. MWH also reported that it has performed maintenance on several nozzles in Thermal Oxidizer Unit 2. MWH also reported that it added wave-guide liquid-level sensors in both ISVE system condensate knockout tanks. MWH operated both the ONCA SBPA and OFCA ISVE systems with Thermal Oxidizer Unit 2 during the reporting period. MWH reported that it measured the water levels in selected ONCA SBPA and OFCA ISVE system wells on October 1, 15, 23, and 28, 2003, in accordance the health and safety protocol established in July 2003.

Ryan Construction completed installing the ventilation fan in the compressor room in the GWTP on October 1, 2003. MWH reported that Ryan Construction also completed miscellaneous piping activities in the GWTP for the nanofiltration unit during the week of September 29, 2003. MWH reported that the filters in the nanofiltration unit became clogged on October 9, 2003. MWH believes that the filters became clogged because of the activities associated with the startup of the unit. MWH replaced the filters during the week of October 20, 2003. Austgen continued to work on the programming logic for automatic operation of the nanofiltration unit. MWH reported that it is currently able to operate the unit in manual mode; however, it expects to be able to operate the unit automatically during the week of November 3, 2003.

MWH operated the GWTP during the reporting period at a rate between 20 and 30 gpm. Simalabs collected samples from the GWTP for routine analysis. MWH did not operate the GWTP and the ISVE systems during the week of October 13, 2003, when US Floors applied an epoxy sealant to the GWTP floor. MWH also reported that it was not pumping water from the ONCA SBPA ISVE system dual phase extraction wells because of a control logic problem with the pneumatic pumps. MWH also reported that it has encountered problems with the pump at monitoring well MW-10C and will remove and inspect the pump.

MWH reported that it has received the analytical data for the annual residential well sampling event that was conducted in September 2003. MWH reported that the data are currently being validated. MWH reported that the unvalidated data indicate that one semi-volatile organic compound, pentachlorophenol, was detected in the samples collected at PW-Y at 2.7 parts per billion (ppb) and at PW-A at 15 ppb. MWH reported that the maximum contaminant level (MCL) for this compound is 1 ppb. MWH reported that it will resample these wells if the validated results exceed the MCL.

MWH reported that it has proposed chemical oxidation for the water table of the southeast area groundwater plume, probably using Fenton's Reagent (or a modification thereof) rather than oxygen release compound (ORC). MWH reported that it is awaiting PRP group approval to apply chemical oxidation to the smear zone and free phase product in this location. MWH also reported that it anticipates implementing the chemical oxidation in the Spring of 2004. MWH reported that it has not concluded the type of remediation it will propose for the contaminated groundwater in the southeast area.

Attached are BVSPC weekly reports No. 135 through 139, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on October 2 and 30, 2003. BVSPC's crew attended two biweekly construction coordination meetings at the site on October 2 and 30, 2003. MWH held the biweekly construction coordination meeting via conference call on October 16, 2003, because of the inactivity at the site and floor coating installation.

Topics of Concern:

- ACS reported odors emanating from the ONCA SBPA ISVE system blower shed building #1 on September 30, 2003.

Concern Resolution:

- MWH reported that Austgen added controls to the system to prevent blower operation while the thermal oxidizer units are not operating. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system. Ryan Construction installed check valves in the ONCA SBPA and OFCA ISVE systems to prevent the backflow of vapors.

Upcoming Activities:

- Dave's Tree Service to remove overgrown brush from the perimeter of the OFCA on November 3, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.
- Ryan Construction to modify piping in the GWTP and Thermal Oxidizer Unit 1.

Signature: Leigh Peters

Date: November 3, 2003

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Weekly Oversight Summary Report No. 135
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of September 29, 2003.

BVSPC O/S Dates: October 2, 2003 (Ms. Peters).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Austgen	2	Electrical and General Contractor
Ryan Construction	1	General Contractor
Simalabs	1	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza reported that American Chemical Service employees observed odors coming from the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system blower shed building #1 on September 30, 2003, after Thermal Oxidizer Unit 2 shut down.
- Austgen reprogrammed the control logic for the operation of the in-situ soil vapor extraction system blowers.
- Montgomery Watson Harza measured water levels in select in-situ soil vapor extraction system wells.
- Ryan Construction completed installing the ventilation fan in the compressor room.
- Austgen continued working on the programming logic for automatic operation of the nanofiltration unit.
- Montgomery Watson Harza held the biweekly construction coordination meeting on October 2, 2003.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it received a phone call from Tom Froman of American Chemical Services (ACS) reporting that odors were observed around the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system on the evening of September 30, 2003. MWH reported that it logged into the control system and found that Thermal Oxidizer Unit 2 and the ONCA SBPA ISVE system blower had shut down; however, the Off-Site Containment Area (OFCA) ISVE system blower continued to operate. With Thermal Oxidizer Unit 2 not

operating, the vapors from the OFCA ISVE system passed through the header system at the groundwater treatment plant (GWTP) back through the piping to the ONCA SBPA ISVE system and into the blower shed. MWH reported that it did not have equipment installed in the ISVE systems to prevent backflow in the system. MWH reported that it immediately shut down the OFCA ISVE system blower. Austgen was onsite on October 1, 2003, and investigated the control programming for the systems. MWH reported that Austgen believes that the ethernet connection to the OFCA ISVE system was interrupted, causing the blower to not shut down appropriately. MWH reported that Austgen programmed additional controls into the logic so that the OFCA ISVE system blower shuts down immediately if the ethernet connection is lost. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system. ACS also reported that it observed a similar situation on September 25, 2003. MWH reported that it was working on the ISVE system on that day but was unable to confirm ACS' observation.

MWH reported that Thermal Oxidizer Unit 2 shut down on September 30, 2003, because of a low flow fault. On Wednesday, October 1, 2003, Austgen disassembled the nozzles and flow switches on the scrubber unit; however, Austgen did not observe any clogs in these items. On Thursday, October 2, 2003, Austgen disassembled the recirculation pump for the scrubber and found a large piece of gasket material obstructing flow in the pipe on the impeller side of the pump. MWH reported that the gasket material was not the material that Ryan Construction had used during construction of the unit and that it did not know the origin of the material. MWH proceeded to bring the unit back online and resumed operation of the ONCA SBPA and OFCA ISVE systems. MWH reported that it measured the water levels in selected ONCA SBPA and OFCA ISVE system wells in accordance the health and safety protocol established in July 2003.

Ryan Construction completed installing the ventilation fan in the compressor room in the GWTP. MWH reported that Ryan Construction also completed miscellaneous piping activities in the GWTP for the nanofiltration unit. MWH also reported that Austgen continued to work on the programming logic for automatic operation of the nanofiltration unit. MWH reported that it is currently able to operate the unit in manual mode; however, it expects to be able to operate the unit automatically next week. MWH reported that it was operating the GWTP at 26 gpm.

MWH held the biweekly construction coordination meeting on October 2, 2003.

Topics of Concern:

- ACS reported odors emanating from the ONCA SBPA ISVE system blower shed building #1 on September 30, 2003.

Concern Resolution:

- MWH reported that Austgen added controls to the system to prevent blower operation while the thermal oxidizer units are not operating. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system.

Upcoming Activities:

- US Floors to epoxy coat the GWTP floor on October 6, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.

Signature: Leigh Peters

Date: October 9, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR OCTOBER 2, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, October 2, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES: Kevin Adler – U.S. EPA
Leigh Peters– BVSPC
Lec Orosz – MWH
Pete Vagt – MWH
Rob Adams – MWH
Chris Daly – MWH

TOPICS:

Health and Safety Summary

On September 30th, ACS personnel observed “odors” in the vicinity of the SBPA ISVE Blower Shed. MWH personnel investigated the claim and determined that the thermal oxidizer and SPBA ISVE blower had shut down. However, the Off-Site Area ISVE blower had not shut down as it is supposed to based on the system control logic. The Off-Site Area ISVE blower was manually shut off. Inspection of the interconnection piping indicated that when the thermal oxidizer shut down, it’s influent valve also closed (as it is supposed to do). Because this valve was closed and the SBPA ISVE blower was also shut down, the air stream from the Off-Site Area Blower flowed backwards through the SBPA ISVE blower effluent piping (which connects to the thermal oxidizer) and discharged through the dilution inlet. It is believed that the Off-Site Area blower did not shut off due to a communications error resulting from potential damage to the system’s Ethernet network. The Indiana Department of Environmental Management (IDEM) Project Manager, Prabhakar Kasarabada, will be notified of the “emergency” discharge if/as required by the state’s regulations.

No other health and safety incidents have occurred at the Site since the last meeting on September 18, 2003. Activities at the site during the past two weeks included the continued operation of the groundwater treatment plant (GWTP), operation of the Off-Site Area In-situ Soil Vapor Extraction (ISVE) system and the Still Bottoms Pond Area (SBPA) ISVE system, and maintenance of equipment in the GWTP.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently operating at 26 gallons per minute (gpm). The activated sludge plant (ME-101) is operating near normal levels. The nanofiltration unit has been installed

and can be operated in 'Hand' mode. However, the control logic has not been completed so that the unit can operate in 'Auto' mode. Austgen Electric has been onsite during the past two weeks working on the electrical connections and the control logic for the unit. Ryan Construction has been onsite during the past two weeks connecting piping for the nanofiltration unit.

The effluent compliance sample for September was collected on September 30th and analyzed for volatile organic compounds (VOCs) and pH.

U.S. Floors is scheduled to be on-site the week of October 6th to apply an epoxy coating to the floor of the GWTP. The GWTP will be shut down for a majority of that week to complete the work.

Off-Site Area/SBPA ISVE Systems

Both ISVE systems have been operating continuously since August 27th with vapors from both systems being treated by Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2). The systems were shut down on September 22nd for routine maintenance. Therm Ox 2 was shut down from September 30th to October 2nd because of clogging that was found in the influent pump which cut off flow to the unit. A potentially non-compliant discharge of vapors occurred due to this shut down and as discussed in the Health and Safety section of these minutes.

Looking Ahead

Week of October 6, 2003	<ul style="list-style-type: none"> • GWTP/BWES/PGCS operation • Off-Site ISVE operation • SBPA ISVE operation • U.S. Floors to apply epoxy floor coating
Week of September 29, 2003	<ul style="list-style-type: none"> • GWTP/BWES/PGCS operation • Off-Site ISVE operation • SBPA ISVE operation
Health and Safety Items to Monitor	<u>Items include:</u> <ul style="list-style-type: none"> • Chemical totes will have to be moved to accommodate U.S. Floors

Next Bi-weekly Construction Meeting - Thursday, October 16, 2003, 10 a.m.

JDF/RAA

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Weekly Oversight Summary Report No. 136
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of October 6, 2003.

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Austgen	1	Electrical Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza reported that the filters in the nanofiltration unit have clogged.
- Austgen continued working on the programming logic for automatic operation of the nanofiltration unit.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it ordered check valves to be installed in the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) system blower piping to prevent backflow through the system. The installation of these valves is in response to the discharge of emissions from the OFCA ISVE system through the ONCA SBPA ISVE system blower shed that was observed by American Chemical Services employees last week. MWH reported that Ryan Construction will install the check valves next week after they arrive.

MWH reported that the filters for the nanofiltration unit have clogged. MWH believes that the rapid clogging of the filters may be associated with the startup of the unit. MWH also reported that replacement filters will be delivered and installed next week. Austgen continued to work on the programming logic for automatic operation of the nanofiltration unit.

MWH reported that the OFCA and ONCA SBPA ISVE systems operated consistently since October 2, 2003. MWH also reported that it was operating the groundwater treatment plant (GWTP) at 30 gpm, pulling from all sources except for the ONCA SBPA ISVE system dual phase extraction wells. MWH reported that it encountered a control logic problem with the pneumatic pumps for these wells; however, Austgen was working on repairing the logic. MWH reported that US Floors postponed the sealant application to the GWTP floors to October 13, 2003, because of a scheduling conflict.

Topics of Concern:

- ACS reported odors emanating from the ONCA SBPA ISVE system blower shed building #1 on September 30, 2003.

Concern Resolution:

- MWH reported that Austgen added controls to the system to prevent blower operation while the thermal oxidizer units are not operating. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system. Ryan Construction is scheduled to install check valves in the ONCA SBPA and OFCA ISVE systems to prevent the backflow of vapors.

Upcoming Activities:

- US Floors to epoxy coat the GWTP floor on October 13, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.

Signature: Leigh Peters

Date: October 17, 2003

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Weekly Oversight Summary Report No. 137
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of October 13, 2003.

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	3	Respondent's General Contractor
US Floors	3	Flooring Contractor
Ryan Construction	2	General Contractor
Austgen	1	Electrical Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza reported that it measured the groundwater levels in select On-Site Containment Area Still Bottoms Pond Area and Off-Site Containment Area in-situ soil vapor extraction system wells.
- Ryan Construction installed check valves in the On-Site Containment Area Still Bottoms Pond Area and Off-Site Containment Area in-situ soil vapor extraction systems.
- Austgen continued working on the programming logic for automatic operation of the nanofiltration unit.
- US Floors installed an epoxy sealant on the groundwater treatment plant floors.
- Montgomery Watson Harza held the biweekly construction coordination meeting at the site on October 16, 2003.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it measured the water levels in selected On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) system wells on October 15, 2003. MWH reported that it measured the water levels in selected ONCA SBPA and OFCA ISVE system wells in accordance with the health and safety protocol established in July 2003.

Ryan Construction installed check valves in the ONCA SBPA and OFCA ISVE systems blower piping to prevent backflow through the system. The installation of these valves is in response to the discharge of emissions from the OFCA ISVE system through the ONCA SBPA ISVE system blower shed that was observed by American Chemical Services employees on September 30, 2003.

US Floors repaired and installed an epoxy sealant on the concrete floor in the groundwater treatment plant (GWTP). MWH ceased operating the GWTP and the ONCA SBPA and OFCA ISVE systems on Monday, October 13, 2003, in preparation for the sealant installation. MWH reported that it will resume operating the systems on Monday, October 20, 2003, after the floor coating has had sufficient time to cure. MWH reported that Austgen continued to work on the programming logic for automatic operation of the nanofiltration unit.

MWH reported that Dave's Tree Service will be on-site on October 28, 2003, for two days to remove overgrown brush and vegetation located along the south and west perimeter of the OFCA.

MWH held the biweekly construction coordination meeting via conference call on October 16, 2003, because of the inactivity at the site and floor coating installation.

Topics of Concern:

- ACS reported odors emanating from the ONCA SBPA ISVE system blower shed building #1 on September 30, 2003.

Concern Resolution:

- MWH reported that Austgen added controls to the system to prevent blower operation while the thermal oxidizer units are not operating. MWH also reported that it will meet with ACS supervisors to inform them about the ISVE system operation and hazards associated with the system. Ryan Construction installed check valves in the ONCA SBPA and OFCA ISVE systems to prevent the backflow of vapors.

Upcoming Activities:

- Dave's Tree Service to remove overgrown brush from the perimeters of the OFCA on October 28, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.

Signature: Leigh Peters

Date: October 17, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR OCTOBER 16, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, October 16, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: Conference Call

ATTENDEES: Kevin Adler – U.S. EPA
Leigh Peters– BVSPC
Mark Travers – Environ
Lee Orosz – MWH
Pete Vagt – MWH
Rob Adams – MWH

TOPICS:

Health and Safety Summary

As part of the groundwater treatment plant (GWTP) floor re-coating process, three chemical storage totes were moved by fork truck. The totes contained phosphoric acid, ammonia hydroxide, and defoamer. The totes were moved without any health and safety concerns. Due to the vapors from the floor coating process, the GWTP's doors are open and the ventilation fans are on to disperse the vapors.

Water levels were gauged on October 15, 2003 as part of the in-situ soil vapor extraction system monitoring. Air monitoring was conducted and results indicated that there were no elevated readings. There were no other health and safety concerns associated with this activity.

There have been no other health and safety concerns at the Site since the last meeting on October 2, 2003.

Groundwater Treatment Plant (GWTP) Status

The GWTP was operated at 26 gallons per minute (gpm) until October 13th when the system was taken off line to re-coat the treatment plant's floor. U.S. Floors began the floor re-coating process on October 13th and are expected to be finished on October 17th. The GWTP will be brought back on line on October 20th.

Austgen Electric was also on site during the past two weeks to update control logic that will further integrate operation of the nanofilter and the GWTP.

Off-Site Area/SBPA ISVE Systems

Both ISVE systems were operating until October 13th when the system was taken off line to re-coat the treatment plant's floor. The GWTP floor re-coating is expected to be

completed on October 17th and the ISVE systems will be brought back on line on October 20th.

On October 15th and 16th Ryan Construction was on site to install check valves in the dilution piping of each ISVE system. The check valves will prevent vapors from backing up and discharging through the dilution air inlets during emergencies.

Austgen Electric also updated the control logic of both ISVE systems. The revised logic will shut down the blowers if they do not receive a positive signal from the thermal oxidation (therm-ox) units that the therm-ox units are operating.

Dewatering Progress

The figures from the last Monthly Status Report depicting water levels in the On-Site and Off-Site Areas show that the water levels in both areas have risen two to three feet during August and September while the GWTP was operating in recirculation mode.

MWH believes that the water levels are up in the On-Site Area due to infiltration while the water levels in the Off-Site Area have only become leveled. The apparent increase in the water elevation in the Off-Site Area occurred because the piezometers are located close to the extraction trenches. Water levels from the air sparge points were collected on October 15th and indicate that the water level in the vicinity of the Off-Site ISVE system rose less than six inches.

Looking Ahead

Week of October 20, 2003	<ul style="list-style-type: none">• Restart GWTP/BWES/PGCS• Restart Off-Site and SBPA ISVE Systems• Austgen to finalize nanofilter control logic programming
Week of October 27, 2003	<ul style="list-style-type: none">• GWTP/BWES/PGCS operation• Off-Site ISVE operation• SBPA ISVE operation• Dave's Tree Service will remove trees and brush from the Off-Site Area perimeter fence.
Health and Safety Items to Monitor	<u>Items include:</u> <ul style="list-style-type: none">• Reinforce adherence to proper health and safety procedures for tree removal with Dave's Tree Service

Next Bi-weekly Construction Meeting - Thursday, October 30, 2003, 10 a.m.

RAA/JDP

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Weekly Oversight Summary Report No. 138
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of October 20, 2003.

BVSPC O/S Dates: Cancelled because of limited site activities.

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Austgen	1	General Contractor

Construction Activities

Major Activities:

- Montgomery Watson Harza resumed operating the groundwater treatment plant.
- Austgen continued working on the programming logic for automatic operation of the nanofiltration unit.
- Montgomery Watson Harza replaced a 24-volt supplier pack to Thermal Oxidizer Unit 2.

Activities Performed:

Montgomery Watson Harza (MWH) reported that US Floors completed applying the epoxy sealant to the floor in the groundwater treatment plant (GWTP) last Friday, October 17, 2003. MWH reported that it resumed operating the GWTP by the end of the day on Tuesday, October 21, 2003. MWH also reported that the GWTP was operating at 20 gpm and that it would increase the rate once the system has operated for a sustained period.

MWH reported that Austgen continued to work on the programming logic for the nanofiltration unit. MWH also reported that it replaced the nanofilters in the unit that had been clogged after system startup.

MWH reported that it resumed operating the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) and Off-Site Containment Area (OFCA) in-situ soil vapor extraction (ISVE) systems; however, it observed that a 24-volt supplier pack to Thermal Oxidizer Unit 2 had become defective. MWH replaced the supplier pack and resumed operating the ISVE systems on Wednesday, October 22, 2003. MWH reported that it measured the ONCA SBPA and OFCA ISVE system water levels on October 23, 2003.

MWH reported that Dave's Tree Service will be on-site on October 28, 2003, for two days to remove overgrown brush and vegetation located along the south and west perimeters of the OFCA.

Topics of Concern:

- None to report.

Concern Resolution:

- None to report.

Upcoming Activities:

- Dave's Tree Service to remove overgrown brush from the perimeter of the OFCA on October 28, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.

Signature: Leigh Peters

Date: October 31, 2003

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Weekly Oversight Summary Report No. 139
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of October 27, 2003.

BVSPC O/S Dates: October 30, 2003 (Mr. Campbell).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Indiana Department of Environmental Management	1	State Regulatory Agency
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Simalabs	1	GWTP Sampling Contractor
Austgen	2	Electrical Contractor

Construction Activities

Major Activities:

- Simalabs collected the monthly compliance sample from the groundwater treatment plant on October 29, 2003.
- Austgen continued to work on the programming logic for the nanofiltration unit at the groundwater treatment plant.
- Montgomery Watson Harza installed wave-guide liquid-level measuring instruments in both in-situ soil vapor condensate knockout tanks.
- Montgomery Watson Harza held the biweekly construction coordination meeting at the site on October 30, 2003.

Activities Performed:

Montgomery Watson Harza (MWH) reported that it resumed operating the groundwater treatment plant (GWTP) on October 21, 2003. MWH also reported that Simalabs collected compliance samples from the GWTP on October 29, 2003. MWH reported that it is pumping groundwater from the barrier wall extraction system, the perimeter groundwater containment system, and monitoring well MW-56. MWH reported that it was having difficulty pumping from monitoring well MW-10C and that it will remove and inspect the pump. MWH also reported that it is not pumping from the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system dual phase extraction (DPE) wells. MWH reported that it plans to pump the water from the DPE wells into the condensate knockout tank in the ONCA SBPA ISVE system blower shed building #1.

MWH reported that Austgen continued to work on the programming logic for the nanofiltration unit. MWH reported that it expects the nanofiltration unit to begin operating in automatic mode during the week of November 3, 2003.

MWH continued to operate the ONCA SBPA and Off-Site Containment Area (OFCA) ISVE system, processing vapors in Thermal Oxidizer Unit 2. MWH reported that it performed maintenance on some of the nozzles for the oxidizer. MWH also reported that it added wave-guide liquid-level sensors in the ISVE system condensate knockout tanks. Observed MWH and Austgen adjusting the setpoints for the liquid-level sensors.

MWH reported that it has received the analytical data for the annual residential well sampling event that was conducted in September 2003. MWH reported that the data are currently being validated. MWH reported that the unvalidated data indicate that one semi-volatile organic compound, pentachlorophenol, was detected in the samples collected at PW-Y at 2.7 parts per billion (ppb) and at PW-A at 15 ppb. MWH reported that the maximum contaminant level (MCL) for this compound is 1 ppb. MWH reported that it will resample these wells if the validated results exceed the MCL.

MWH reported that it has proposed chemical oxidation for the water table of the southeast area groundwater plume, probably using Fenton's Reagent (or a modification thereof) rather than oxygen release compound (ORC). MWH reported that it is awaiting PRP group approval to apply chemical oxidation to the smear zone and free phase product in this location. MWH also reported that it anticipates implementing the chemical oxidation in the Spring of 2004. MWH reported that it has not concluded the type of remediation it will propose for the contaminated groundwater in the southeast area.

MWH reported that Dave's Tree Service will be onsite to remove the brush and tress located along the perimeter of the OFCA on November 3, 2003.

MWH held the biweekly construction coordination meeting on October 30, 2003. MWH reported that the next meeting will be held at the site on November 20, 2003.

Topics of Concern:

- None to report.

Concern Resolution:

- None to report.

Upcoming Activities:

- Dave's Tree Service to remove overgrown brush from the perimeter of the OFCA on November 3, 2003.
- Austgen to complete programming logic for the nanofiltration unit.
- MWH to remove and dispose of the investigation-derived waste drums from monitoring well installation activities.
- Ryan Construction to modify piping in the GWTP and Thermal Oxidizer Unit 1.

Signature: Leigh Peters

Date: October 31, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR OCTOBER 30, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, October 30, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: Conference Call

ATTENDEES: Kevin Adler – U.S. EPA
Prabhakar Kasarabada – IDEM
Larry Campbell– BVSPC
Pete Vagt – MWH
Lee Orosz – MWH
Todd Lewis – MWH
Rob Adams – MWH
Chad Smith – MWH
Chris Daly – MWH
Jon Pohl – MWH

TOPICS:

Health and Safety Summary

There have been no health and safety concerns at the Site since the last construction meeting on October 16, 2003. Activities at the site have included completion of the floor coating in the groundwater treatment plant (GWTP), operation of the GWTP, operation of the Off-Site Area in-site soil vapor extraction (ISVE) system and the Still Bottoms Pond Area (SBPA) ISVE system, upgrading on the GWTP's control logic, and collecting water levels across the site.

Groundwater Treatment Plant (GWTP) Status

The GWTP is currently operating at 25 gallons per minute (gpm). U.S. Floors completed applying an epoxy floor coating on October 17th. Cleaning activities were performed in the plant on October 20th and the GWTP was brought back on line on October 21st. The GWTP has been drawing water from the Off-Site Area Barrier Wall Extraction System (BWES), the On-Site Area (BWES), the Perimeter Groundwater Containment System (PGCS), and monitoring well MW-56. Water is not being drawn from monitoring well MW-10C because the pump in this well is currently not operating. The pump will be removed from the well and inspected on October 30th.

The October effluent compliance sample for the GWTP was collected on October 29th.

Austgen Electric was on site during the past two weeks to update control logic that will further integrate operation of the nanofilter and the GWTP. Austgen was also updating the logic for the new pressure transducers in T-101 and other components of this tank.

Groundwater level measurements were collected across the site on October 23rd and 28th.

Off-Site Area/SBPA ISVE Systems

Both ISVE systems were brought back online on October 21st after the completion of the floor coating and minor maintenance on Thermal Oxidizer/Scrubber Unit 2 (Therm Ox 2). Both ISVE systems have been operating continuously since October 21st.

The new level sensors that were installed in the SBPA and Off-Site blower shed knockout tanks will be calibrated on October 30th.

Private Well Sampling

Unvalidated laboratory data for the residential well sampling performed in September has been received by MWH. The results indicate that pentachlorophenol exceeded the Maximum Contaminant Limit (MCL) of 1 part per billion (ppb) for this compound in two residential wells. The wells were PW-Y at 2.7 ppb and PW-A at 15 ppb. The people renting the house at the PW-Y location indicated that the property was supplied by City water. MWH is verifying this with the property owner. The residents at the PW-A location indicated they drink bottled water and not the well water. MWH will propose resampling these sites pending the results of the data validation. U.S. EPA will issue letters to the residents of all the wells sampled once they have reviewed the data.

ORC

MWH is still waiting for approval from the PRP Group to move forward with the chemical oxidation work in the southeast plume. Tentative plans include using Fenton's Reagent or a modified Fenton's Reagent instead of ORC for this work. This change in chemical is because ORC is not typically as effective at treating contamination in the smear zone as Fenton's Reagent. The work is anticipated to occur in the spring of 2004 when the watertable is expected to be at the annual high elevation in the upper aquifer.

Looking Ahead

Week of November 3, 2003	<ul style="list-style-type: none">• GWTP/BWES/PGCS operation• Off-Site and SBPA ISVE Systems operation• Dave's Tree Service will be trimming down the fence line in the Off-Site Area• Ryan Construction will be installing piping around the thermal oxidizer units
Week of November 10, 2003	<ul style="list-style-type: none">• GWTP/BWES/PGCS operation• Off-Site ISVE operation• SBPA ISVE operation
Health and Safety Items to Monitor	<u>Items include:</u> <ul style="list-style-type: none">• Reinforce adherence to proper health and safety procedures for tree removal with Dave's Tree Service• Ryan Construction work in tight spaces around the thermal oxidizer units. Thermal oxidizers will be shut down during this work.

Next Construction Meeting - Thursday, November 20, 2003, 10 a.m.

JDP/RAA/PJV

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Submittal Schedule for ACS Report

Report Name	Submittal Date
RTCs for SBPA Interim Cover CCR	November 18, 2003
RTCs for Off-Site ISVE CCR	November 25, 2003
Off-Site Area Final Cover CCR	December 19, 2003
RTCs Off-Site ISVE Modification Memo	December 3, 2003
RTCs for Fourth Quarter 2002 GWTP Monitoring Report	December 30, 2003
SBPA ISVE System CCR	January 23, 2004
RTCs for First Quarter 2003 Treatment Systems Monitoring Report	December 9, 2003
RTCs for 2002 ISVE Monitoring Report	December 9, 2003

10/2/03

Lyb E. Green

(11)

0830 Arrive Onsite; Sunny, clear, 45-50°F

Light NW wind

Personnel Present:

*Lee Cross	MWH
Tim Kirkland	Austgen
Matt Mesaran	MWH
*Lyngh Peters	BV3PCU

0850 Spoke with L. Cross - He reported T. Froman of ACS called late Tuesday night to report odors coming from ONCA/SBRA ISVE blower shed. L. Cross logged into system and found that Thermax 2 offline; ONCA blower off; but OFCA blower on. L. Cross shut down system spoke with Todd Lewis and Tom Froman reported that odors also observed last Thursday when Austgen + MWH working on programming to bring nanofilter online. MWH + Austgen modified programming + attempted to restart unit yesterday; tank system faulted with flow problem. Austgen looking at pumps for scrubber unit today to detect problem. Systems offline. MWH and ACS to meet with supervisors to provide additional information on Thermax sy 8P ISVE systems. BV3P at 26 gpm. MWH and Austgen to gauge ISVE water levels today following new HRS methods. Ryan completed

Lyb E. Green

(12)

10/2/03 Jeff E. Peltus

installing ventilation fan this week.
 L. Dross also reported that MWH has
 not removed drums with IDW from
 wall installation - may remove next week
 when plant is down for the floor coating

0911 Roll 49 Photo 1 facing E of new ventilation
 fan installed in ask compressor room

0925 Roll 49 Photo 2 facing S of Austgen
 working on Thermax 2

0945 Austgen + MWH determined system
 clog on Thermax 2 scrubber at
 probe locations. Austgen to repair
 and MWH + Austgen to measure 15VE
 water levels after lunch.

0955 Austgen Electric onsite to look into
 programming. Austgen found clog at
 probe - removed material that resembled
 gasket material. MWH restarted Thermax 2.

1000 Biweekly construction mtg

Attendees - * on previous plus via phone
 Kevin Miller EPA Peter Vagt MWH
 Rob Adams MWH Chris Daly MWH
 Prabhakar Kasaraboina IDEN

HIS: 1 HIS concern - MWH received call
 from AES regarding chors from ONCA SBPA

Jeff E. Peltus

(13)

10/2/03 Jeff E. Peltus

15VE Bldg #1 on Tues Night - MWH observed
 Thermax 2 + area blower down, but OFCA blower
 online. AMWH shut down - Austgen investigated
 and thought ethernet connection failed + added
 bit to programming. MWH tested + worked. AES
 also reported the same happened on last Thurs
 but MWH can't confirm. MWH to inform
 AES supervisor in system.

EWTR: op at 24 gpm. 95% back to normal
 nanofilter started 11/23 and operating in
 manual mode - Austgen working on program.
 Hope to resolve in next week.

15VE shut down Tuesday - unit skid so fire -
 MWH checked nozzles yesterday - not clogged.
 Austgen pulled impeller on pump + found
 nothing but later pulled 18-19 inch long
 piece of gasket material on suction side.
 MWH bringing water up to temperature.
 Gasket not consistent with material
 used - not sure of origin. MWH to investigate
 reporting requirements if it exceeded
 discharge of 3.16/sec on Tuesday.

Austgen: working on controls

Repair: completed piping

Gas sampling: sampling complete; waiting for results
 Jeff E. Peltus

(14)

10/2/03

Jeff R. Retus

Look Ahead: Austin complete contracts,
GWTP/ISVE operation. US Floors to apply
coating to GWTP floors. 10/14/03 - 4 day
shut down of GWTP/ISVE - hope to resume
operation 10/16/03.

Look Ahead H+S: move chemical totes
for floor coat - will work with US Floors.
US Floors to have large generator onsite.
H+S with placement operation of generator.

1035 Mtg Conclude - Next mtg 10/16/03 @ 10am

1045 - 1055 spoke with L. Campbell on site activities

1100 Spoke with L. Gross - he reported no check
valves on vapor piping for ISVE systems.
MWH may look into it if they didn't solve
problem by programming.

1120 Left site for Day

Jeff R. Retus
10/02/03

(15)

10/16/03

Jeff R. Retus

1000 Biweekly Construction Meeting - held
via conference call. Personnel

Present:

Kevin Adler EPA

Peter Vagt MWH

L. Gross MWH (at site)

Rob Adams MWH

Mark Travers Environ

Brian Peters BVSRC

H+S: No incidents, only activity has
been US Floors applying floor coating
in GWTP - required moving 3 chemical
storage bins. Moved without incident.
10/15/03 - MWH monitored water levels
in ISVE wells - no elevated PID readings
observed. MWH keeping GWTP ventilated
during floor coating.

GWTP: GWTP previously running at 26 gpm;
shut down 10/13/03 for US Floors
activity. DECA and DNCA/BPA ISVE
systems also shut down on 10/13/03.
US Floors to be complete 10/17/03 - MWH
to allow coating to seal over weekend
and to restart GWTP and both ISVE
systems on 10/20/03 by end of day.

Jeff Retus

(16)

10/16/03 Jeff Spete

Austgen: onsite intermittently working on programming for nanofiltration unit.

Ryan: onsite this week and installed check valves for ISVE system blowers.

Austgen reports the discharge due to programming logic in ethernet cord on 10/16 to 10/30/03. Austgen reprogrammed so that ISVE blowers automatically shut down if Ethernet connection is lost.

Look Ahead: ISVE/GWTP startup on 10/20/03 by end of day.

Dave's Tree service out 10/28/03 for 2 days to remove brush along west and south sides of OFCA. MWH to discuss HHS with Dave's Tree Service.

Questions: Elevated water levels in ONCA + OFCA when plant down. MWH believes higher ONCA water levels attributable to infiltration, OFCA water levels possibly because of levelling off of water mound in OFCA because levels at air sparge points have not increased significantly. Also, seepage from

Jeff Spete

(17)

10/16/03

Jeff Spete

Separation barrier wall is possible. MWH also reported it is pursuing an internal work order for the South Area Chemical Oxidation treatment. MWH and EPA target construction completion date is estimated as August 2004.

MWH to continue to pursue a larger blower for OFCA ISVE system - EPA looking into approval for work.

1020 Mtg conclude. Next Meeting scheduled for 10/30/03 @ 1000.

Jeff Spete
10/16/03

(18)

10/30/03 Clear Sunny 57°F 47°F Calm
0915 Arrive on site

Personnel On Site

Lee Orosz	MWH
Todd Lewis	MWH
Prabhakar	IDEM
Larry Campbell	BUSPC
Tim Kirkland	Austgen
Mike Cheneveth	S&M Lab
Robert Cox	Austgen

10100 Construction Mtg

Attendees:

Site:	Lee Orosz	MWH
	Todd Lewis	"
	Prabhakar Kasarabail	IDEM
	Larry Campbell	BUSPC
Phone:	Kevin Adler	USEPA
	Pete Vast	MWH
	Rob Adams	"
	Chad Smith	"

H&S - No Issues since last mtg.

GWTP - Plant running at
25 gpm w/ water from ONCA, OFCA
& PCGS & MW56 wells

LM Campbell

(19)

Not pumping from MW10C because
of pump problems - plan to pull pump
today & investigate. Took monthly
discharge compliance samples
yesterday. New floor coating
process completed Fri 10/17/03.
Most of following week spent cleaning
dust etc. after floor coating.
Reactivated plant on Tue 10/21/03
Austgen doing some programming
on SCADA & AT Nano filter controls

ISVE Systems - both OFCA & ONCA
(Still Bottoms Pond) online again on
10/21/03. Some valves, ~~nozzles~~
nozzles, etc. were not working
properly after systems were down for
long period for floor coating. Had
to perform maintenance on some
nozzles. MWH added new
wave guide liquid level sensors
to knock out tanks in OFCA &
ONCA blower sheds. At ONCA
MWH plans to pump water from
dual phase wells into knock out TK.

(20)

Jim Campbell

~~Water Level~~ WL Readings
were made on 10/23 & 10/28.

Private Well Sampling

Data from private residential
well sampling has been
received from lab & is now
being validated. Unvalidated
data indicate that one SVOC
PCP ^{2.7} ~~2.7~~ was detected in water from
one well PWY (18 ppb) and PWA
(2.7 ppb) above MCL = 1 ppb.
If validated results are same, will
resample these wells.

Offsite GW Plume - CRC Tests

MWH has proposed using chemical
oxidation to remediate source
of contamination in smear zone of
water table level in offsite plume.
MWH awaiting PRP group approval.
MWH planning for Chemox of
Smear Zone & Free Plume product
will probably implement in Spring
2004 when WL is highest.

(21)

Jim Campbell

MWH Not Sure if remediation
they'll propose for contaminated GW.
Possibly - removal of source with
reduce GW contaminant levels.

Look Ahead

- On 11/3/03, Dave's Tree service will
be onsite to remove brush &
trees that are impacting fence
primarily on W. of OFCA.
- Ryan will be making
many piping changes w/hi
plant - especially water piping
to Durr Unit. Will have
to stop units to do so.
- H&S - with caution Dave Tree
service about H&S issues - require
Tall gate w/ty do. off. Concern about
bees & Wasps in brush.
- MWH expects to pave (asphalt)
ONCA area in late Summer 2004
- Reports - MWH working on various
reports: GWTP, ONCA Interim Cover,
OFCA ISVE system, SBPA ISVE System
OFCA Final Corr.

Next Mtg 3 wks on Nov 20, 2003
Mtg over 10/125AM Jim Campbell

(82)

Jim Campbell

10140 Visited OFCA w/ Todd Lewis & Phabhuver. Observed results of cleaning out of dirt from riprap in swales, filling of erosion gulches & low areas & new grass growth. Also observed new perforated tile & its drainage of water from low area at N. end of OFCA

10140 Roll 49, Photo 3 looking W at new wave guide liquid level instrument in OFCA Knockout Tank)

10150 Roll 49, Photo 4 looking W at trees/brush to be removed along fence in W. portion of OFCA

11:05 Roll 49. Photo 5 looking NW at plastic grid, filter fabric & rip rap placed over storm sewer inlet catch basin to minimize gravel movement near SUESS

11:15 Roll 49, Photo 6 - looking

(23)

South ^{WEST} ~~west~~ ^{from} at N end of Nano Filter.

Photo 7 - looking NE at South end of Nano Filter

1125 Observed Todd adjust controls of Global Thermox unit 2 that had gone off line because gas outlet temp had gotten too low.

Noon - Left Site for Day

~~Jim Campbell~~



Site: American Chemical Services, Inc.

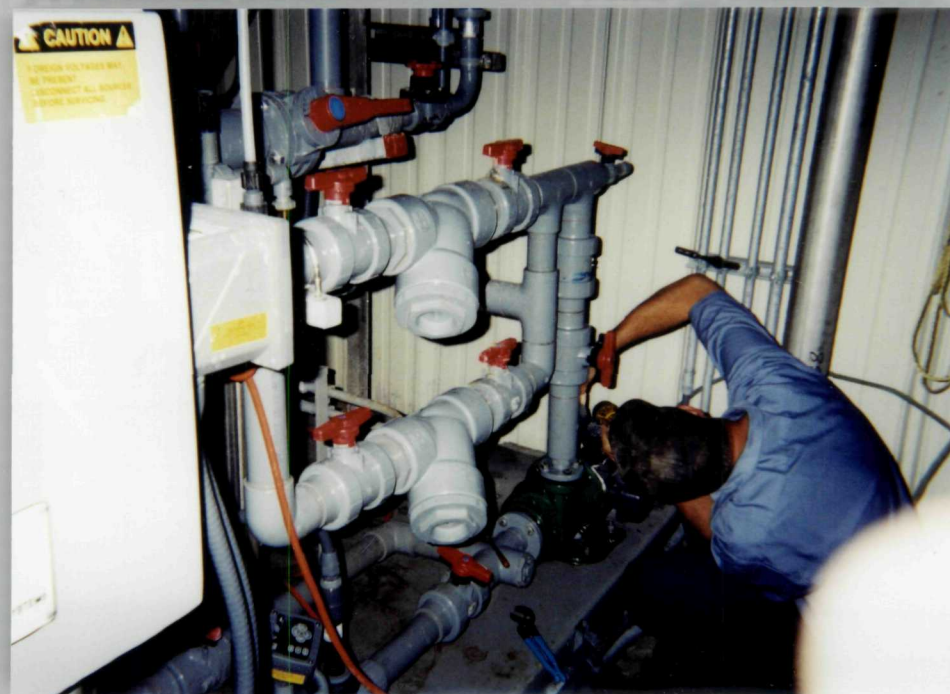
Proj. #: 46526

Roll: 49 Photo #1

Date: 10-02-03 Time: 09:11

Photographer: Leigh Peters

Description: Photo facing east showing the new ventilation fan installed in the air compressor room in the GWTP.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 49 Photo #2

Date: 10-02-03 Time: 09:25

Photographer: Leigh Peters

Description: Photo facing south showing Austgen working on clearing the piping for Thermal Oxidizer Unit 2.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 49 Photo #3

Date: 10-30-03 Time: 10:40

Photographer: Larry Campbell

Description: Photo facing west showing the new wave
guide liquid level instrument installed in the
OFCA ISVE system condensate knockout
tank.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 49 Photo #4

Date: 10-30-03 Time: 10:50

Photographer: Larry Campbell

Description: Photo facing west showing the trees and
brush to be removed from the western
portion of the OFCA engineered cover.



Site: American Chemical Services, Inc.

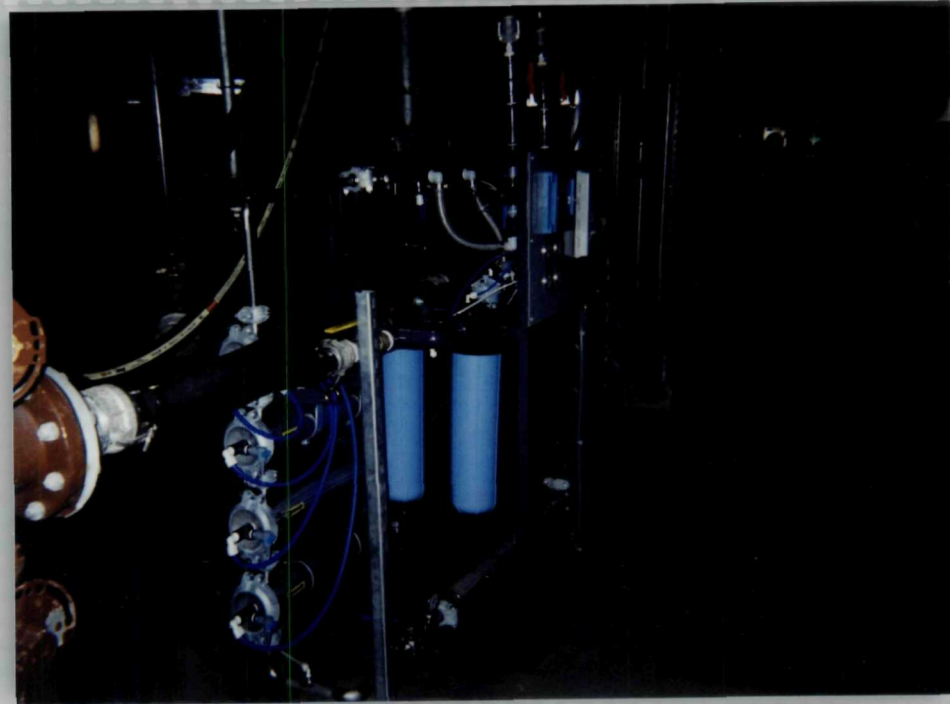
Proj. #: 46526

Roll: 49 Photo #5

Date: 10-30-03 Time: 11:05

Photographer: Larry Campbell

Description: Photo facing northwest showing the geonetting, filter fabric, and riprap placed over the catch basin to minimize gravel erosion near SVE-80.



Site: American Chemical Services, Inc.

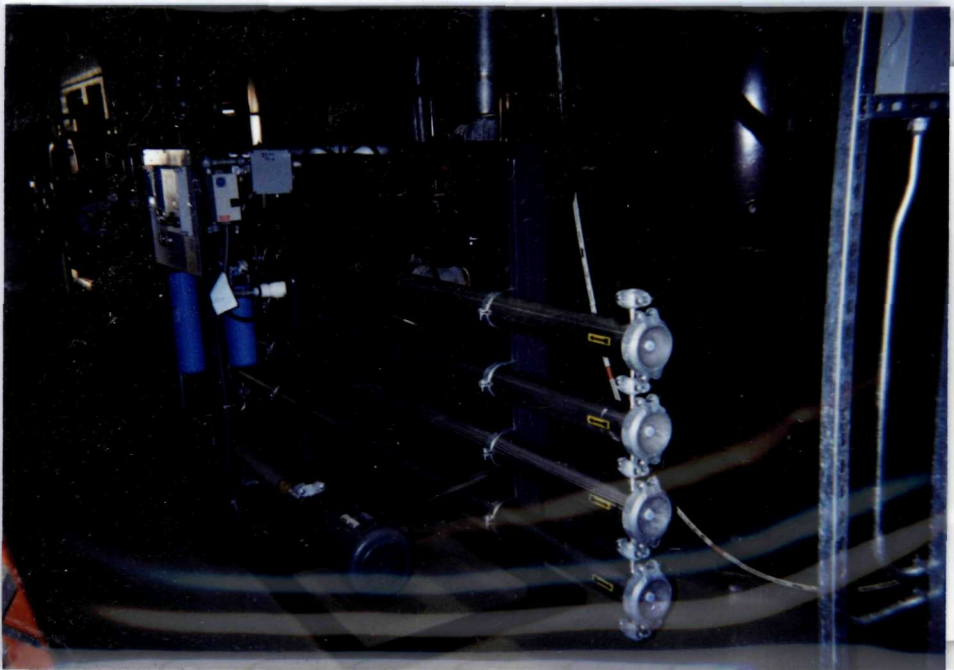
Proj. #: 46526

Roll: 49 Photo #6

Date: 10-30-03 Time: 11:15

Photographer: Larry Campbell

Description: Photo facing southeast showing the north end of the nanofiltration unit installed in the GWTP.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 49

Photo #7

Date: 10-30-03

Time: 11:15

Photographer: Larry Campbell

Description: Photo facing northeast showing the south end of the nanofiltration unit installed in the GWTP.